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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,458	10/17/2003	Craig S. Allen	51798	3036
21874	7590	04/20/2005	EXAMINER	
EDWARDS & ANGELL, LLP			PHAN, THIEM D	
P.O. BOX 55874				
BOSTON, MA 02205			ART UNIT	PAPER NUMBER
			3729	

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/688,458	ALLEN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Tim Phan	3729	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 February 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 5-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicants's election without traverse of Group I, Claims 1-8, filed on 2/22/05 is acknowledged.

The Restriction mailed on 2/07/05 has been carefully reviewed and is held to be proper. However further Restriction is necessary with respect to method Claims 1-8 because of an oversight on the part of the Examiner who initially restricted this Application.

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I-A. Claims 1-4, drawn to a method of manufacturing a structured resistor, Figs. 4A-4D, classified in class 29, subclass 620.
  - I-B. Claims 5-8, drawn to another method of manufacturing a structured resistor, Figs. 3A-3D, classified in class 29, subclass 610.1.

3. The inventions are distinct, each from the other because of the following reasons:

Inventions I-B and I-A are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require

the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the method of manufacturing a structured resistor as recited in Group I-B does not require a substrate thereof, as required by Group III-B. The subcombination, Invention III-B, has separate utility such as releasing or separating the substrate from the resistive material layer.

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Group I-A is not required for Group I-B, restriction for examination purposes as indicated is proper.

5. A telephone call was made to S. Matthew Cairns (508-229-7545) on 3/29/05 to discuss the above restriction requirement, and did result in an election being made for Group I-A (Claims 1-4) while Group I-B (Claims 5-8) were withdrawn. Applicants are required to cancel these nonelected claims (5-19) or take other appropriate action.

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Applicants are advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143) later on.

Applicants are reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

An Office Action on the merits of Claims 1-4 now follows.

***In the Specification***

6. On page 1, before “Background of the Invention”, insert:

“Cross Reference to Related Document

The present application claims the benefit of Provisional Application 60/419,637, which was filed on October 18, 2002.”

***Title***

7. The following title is suggested: "A Method of Manufacturing a Structured Resistive Material Device".

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by Fjelstad (US 6,821,821 B2) hereinafter '821.

**As applied to claim 1**, the '821 teaches a method of manufacturing resistors comprising:

- a) providing a substrate or polymer layer (Fig. 5A, 200; col. 4, lines 42-45) having a structured surface;
- b) disposing a layer of resistive material or chip resistor (Fig. 5D, 220) on the structured surface of the substrate;

- c) disposing a layer of conductive material (Fig. 1E, end of 230) on the resistive material layer; and
- d) separating the substrate (Fig. 5A, 200) from the resistive material layer (Fig. 5D, 220) to provide a structured resistive material to provide a resistive material device (Fig. 5G and 5H).

10. **As applied to claim 3**, the '821 teaches that the structure surface is a substantially corrugated or marked with uneven surface (Fig. 5b, 203).

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over the '821.

**As applied to claim 2**, the '821 teaches a method of manufacturing of manufacturing resistors, which reads on applicants' claimed invention including a separating layer with some

polymer and conductive materials (Col. 4, lines 40-45), except for having the separating layer structure made of a release layer on the substrate layer.

It is mere matter of design choice to have having the separating layer structure made of release layer on the substrate layer and it appears that the invention would perform equally well with the separating layer reinforced with metallic and resin materials, which is removed from the resistor later on.

**As applied to claim 4**, the '821 teaches a method of manufacturing of manufacturing resistors, which reads on applicants' claimed invention, except for having the resistive material layer in a variety of thickness.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the resistive material layer in a variety of thickness in order to have different resistors, since it is known in the art that the invention is to manufacture many resistors (Fig. 1g-1, 150 or Fig. 11E, 1150A & 1150B).

13. Claims 1-4 are further rejected under 35 U.S.C. 103(a) as being unpatentable over the '821 in view of Sato et al (US 5,384,076) herinafter '076 or vice versa.

**As applied to claim 1**, the '821 teaches a method of manufacturing resistors comprising:

- a) providing a substrate or polymer layer (Fig. 1A, 101; col. 4, lines 42-45) having a structured surface;



- b) disposing a layer of resistive material or chip resistor (Fig. 1C, 121) on the structured surface of the substrate; and
- d) separating the substrate (Fig. 1A, 101) from the resistive material layer (Fig. 1C, 121) to provide a structured resistive material to provide a resistive material device (Fig. 1G-1, 150).

The '076 teaches a process of forming resistive film-composition with a step of disposing a layer of conductive material or gold film (Fig. 3, 3 & 4; col. 6, lines 45-52) on the resistive material layer (Fig. 3, 8) in order to form solid, common and counter electrodes.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the two teachings by applying the conductive layer, as taught by the '076 to the '821 in order to form solid, common and counter electrodes.

**As applied to claims 2-4,** theses claims are wordly rejected as in paragraphs 10 and 12 above under 35 USC 103, which are incorporated herein and made a part hereof.

### ***Conclusion***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tim Phan whose telephone number is 571-272-4568. The examiner can normally be reached on M - F, 9AM - 5PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tim Phan  
Examiner  
Art Unit 3729

tp  
March 31, 2005

  
**CARL J. ARBES**  
**PRIMARY EXAMINER**